

Basis for Human Exposures Controlled Determination
RCRIS Code CA725
at
Ciba-Geigy Facility
EPA ID No. RID001194323
180 Mill St., Cranston, RI

The purpose of this report is to provide the basis for determining that the Ciba-Geigy Facility can be recorded with the status code of YE under the RCRIS Event Code of CA725--Human Exposures Controlled.

Based on the information available/reviewed, and subject to the limitations cited below, there is no current unacceptable exposure/risk to humans due to releases of contaminants subject to RCRA Corrective Action at this Facility. This determination is based on the conclusions described in item 1 below and supplemented by additional data, conditions and assumptions in items 2 and 3 below and the references listed in item 4 below.

1. CONCLUSIONS

There is no unacceptable human exposure to any contaminant concentration above action levels that has been detected or is reasonably suspected based on current contaminant concentrations and current site conditions. Although contamination remains at the facility that may require further remediation, interim measures (e.g., source removal, physical barriers and access control) have been implemented and the current site conditions are such that unacceptable threats to human health from actual exposure to the remaining contamination are not plausible based on current uses of the site.

2. RELEASE SUMMARY DATA

- **Groundwater:** Compounds of potential concern are VOCs which have been detected at a maximum total concentration of 150 ppm in the Production Area. VOCs were found in the SWMU #5 and WWTP areas at maximum total concentrations of 3.5 ppm and 0.1 ppm, respectively. (See Reference A)
- **Soils:** Compounds of potential concern are PCBs and VOCs. PCBs were found in two separate study areas (Production Area & SWMU #5) at maximum levels of around 1000 mg/kg and several hundred mg/kg, respectively. VOCs were found in all separate study areas (Production, SWMU #5 and WWTP) at maximum total levels

of approximately 1000 mg/kg, several hundred mg/kg and 10 mg/kg, respectively. (See Reference A)

- **Sediments:** Compounds of potential concern are PCBs and VOCs. PCBs were found at maximum levels of 34,000 ppm and VOCs were found at maximum levels of 27,000 ppm. (See Reference A)

3. RELEVANT SITE CONDITIONS & ASSUMPTIONS

- The Production Area is currently zoned for Industrial use and the remediation activities are the only on going activity. All industrial activity ceased in 1987. Access to this area is controlled by a fence with a locked gate.
- The SWMU #5 area is currently zoned for Residential use and the remediation activities are the only on going activity. Access to this area is controlled by a fence with a locked gate.
- The WWTP Area is currently zoned for Light Industrial use and the remediation activities are the only on going activity. Access to this area is controlled by a fence with a locked gate.
- In the vicinity of the site the Pawtuxet river is rated a Class D river by the (RI DEM). This rating limits the use of the river to being suitable only for migration of fish and aesthetic value.
- The facility is bisected by the Pawtuxet River and all ground water flows toward and discharges to the river.
- Contaminated groundwater is present only within the facility boundary. There are no public or private drinking water wells within the facility boundary or in the vicinity of the facility. The groundwater in the region of the site is rated GB (non-potable) by the Rhode Island Department of Environmental Management (RI DEM). Public water is available on-site and in the vicinity of the site.
- Contaminated groundwater in the production area is undergoing remediation using a pump & treat system. This system will effectively reduce the migration of contaminated ground water to the river. Contaminant levels in groundwater at the other two study areas is negligible. (See References A, G & H)
- Contaminated ground water will discharge to the Pawtuxet River at the facility boundary. Off-site

human exposures are not plausible due to the ground water pumping system that minimizes migration of ground water to the river, the lack of public use of the river due to its Class D rating by the Rhode Island Department of Environmental Management (RI DEM) and the significant dilution of low level (ppb) ground water contamination in the receiving surface water.

- Groundwater contamination is decreasing over time.
- Highly contaminated site soils in the Production Area and SWMU #5 have been removed and the areas backfilled with certified clean fill. Preliminary findings indicate that site soils do not pose a non-carcinogenic risk under future site uses. With regard to carcinogenic risk, preliminary findings indicate that site soils are at the 10^{-5} carcinogenic risk level under future site uses. Future site use assumes more activity and greater exposure than current site use. Therefore, cumulative carcinogenic risk is well within the target risk range of (10^{-6} to 10^{-4}) under current site conditions and uses. The risk assessment was conducted by PTRL Environmental Services for the Ciba-Geigy Corporation and reviewed by EPA Region 1. (See References A,C,D, & F)
- Exposure of trespassers, on-site workers or visitors to contaminated soils is implausible due to access control, soil removal and soil capping.
- River sediments in the hot spot area have been removed to a depth of 5+ feet and backfilled with certified clean fill. There is no plausible human exposure to contaminants in the river sediments. (See Reference E)
- Anticipated loading rates of contaminants to surface water in the Pawtuxet River from run off of surface soil and discharge of ground water at the facility suggest the potential for impact to surface water quality is negligible. This is due to the removal of contaminated surficial soils to a depth of 1 to 5 feet in hot spot areas and the backfilling of said areas with certified clean fill.
- Anticipated loading rates of contaminants to sediment in the Pawtuxet River from run off of surface soil at Ciba-Geigy suggest the potential for impact to sediment quality is negligible. This is due to the removal of contaminated surficial soils to a depth of 1 to 5 feet in hot spot areas and the backfilling of said areas with certified clean fill.

- Soil and groundwater data show no source area from which air emissions would be expected.

4. REFERENCES

- A. RCRA Facility Investigation Report (On-site Areas), July 31, 1995.
- B. RCRA Facility Investigation Report (Pawtuxet River), March 31, 1996.
- C. On-Site Soil Interim Remedial Measures Report, March 1, 1996.
- D. Revised On-Site Soil Interim Remedial Measures Report, August 6, 1996.
- E. Sediment Interim Remedial Measures Report, July 31, 1996.
- F. Letter dated August 6, 1996, from PTRL describing the revised soil risk estimates of the on-site areas.
- G. Monthly reports from September 1995 to present.
- H. Revised Final Stabilization Design Document, January 1995.

4. SIGN OFF

Prepared by Frank Battaglia Date 9/24/96
 Frank Battaglia, RFM

Approved by Matthew R. Hoagland Date 9/24/96

Matthew R. Hoagland, Chief
 Corrective Action Section